



SEQUENCE LISTING

<110> Egan, Sean E.
Wang, Wei
Sengar, Ameet

<120> ESE GENES AND PROTEINS

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<150> PCT/CA99/00375

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<150> US 60/118,739

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Ser Asp Leu Asn Lys Asp Gly Lys Met Asp Gln Glu Phe Ser Ile
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Ala Asn Tyr Glu Arg Gly Asn Met Glu Leu Glu Lys Arg Arg Gln Val	
370 375 380	
ttg atg gag cag cag cag agg gag gct gaa cgc aaa gcc cag aaa gag	1200
Leu Met Glu Gln Gln Gln Arg Glu Ala Glu Arg Lys Ala Gln Lys Glu	
385 390 395 400	
aag gaa gag tgg gag cgg aaa cag aga gaa ctg caa gag caa gaa tgg	1248
Lys Glu Glu Trp Glu Arg Lys Gln Arg Glu Leu Gln Glu Gln Glu Trp	
405 410 415	
aag aag cag ctg gag ttg gag aaa cgc ttg gag aaa cag aga gag ctg	1296
Lys Lys Gln Leu Glu Leu Glu Lys Arg Leu Glu Lys Gln Arg Glu Leu	
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gag aga cag cgg gag gaa gag agg aga aag gag ata gaa aga cga gag	1344
Glu Arg Gln Arg Glu Glu Glu Arg Arg Lys Glu Ile Glu Arg Arg Glu	
435 440 445	
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Ala Ala Lys Gln Glu Leu Glu Arg Gln Arg Arg Leu Glu Trp Glu Arg	
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ctc cgt cgg cag gag ctg ctc agt cag aag acc agg gaa caa gaa gac	1440
Leu Arg Arg Gln Glu Leu Leu Ser Gln Lys Thr Arg Glu Gln Glu Asp	
465 470 475 480	
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Ile Val Arg Leu Ser Ser Arg Lys Lys Ser Leu His Leu Glu Leu Glu	
485 490 495	
gca gtg aat gga aaa cat cag cag atc tca ggc aga cta caa gat gtc	1536
Ala Val Asn Gly Lys His Gln Gln Ile Ser Gly Arg Leu Gln Asp Val	
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caa atc aga aag caa aca caa aag act gag cta gaa gtt ttg gat aaa	1584
Gln Ile Arg Lys Gln Thr Gln Lys Thr Glu Leu Glu Val Leu Asp Lys	
515 520 525	
cag tgt gac ctg gaa att atg gaa atc aaa caa ctt caa caa gag ctt	1632
Gln Cys Asp Leu Glu Ile Met Glu Ile Lys Gln Leu Gln Gln Glu Leu	
530 535 540	
aag gaa tat caa aat aag ctt atc tat ctg gtc cct gag aag cag cta	1680
Lys Glu Tyr Gln Asn Lys Leu Ile Tyr Leu Val Pro Glu Lys Gln Leu	
545 550 555 560	
tta aac gaa aga att aaa aac atg cag ctc agt aac aca cct gat tca	1728
Leu Asn Glu Arg Ile Lys Asn Met Gln Leu Ser Asn Thr Pro Asp Ser	
565 570 575	
ggg atc agt tta ctt cat aaa aag tca tca gaa aag gaa gaa tta tgc	1776

Gly	Ile	Ser	Leu	Leu	His	Lys	Lys	Ser	Ser	Glu	Lys	Glu	Glu	Leu	Cys	
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Gln	Arg	Leu	Lys	Glu	Gln	Leu	Asp	Ala	Leu	Glu	Lys	Glu	Thr	Ala	Ser	
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Glu	Ser	Tyr	Asn	Thr	Gln	Gln	Leu	Ala	Leu	Glu	Gln	Leu	His	Lys	Ile	
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Lys	Arg	Asp	Lys	Leu	Lys	Glu	Ile	Glu	Arg	Lys	Arg	Leu	Glu	Gln	Ile	
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caa	aaa	aag	aaa	cta	gaa	gat	gag	gct	gca	agg	aaa	gca	aag	caa	gga	2016
Gln	Lys	Lys	Lys	Leu	Glu	Asp	Glu	Ala	Ala	Arg	Lys	Ala	Lys	Gln	Gly	
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Lys	Glu	Asn	Leu	Trp	Arg	Glu	Ser	Ile	Arg	Lys	Glu	Glu	Glu	Glu	Lys	
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caa	aaa	cga	ctc	cag	gaa	gaa	aag	tca	cag	gac	aaa	act	caa	gaa	gag	2112
Gln	Lys	Arg	Leu	Gln	Glu	Glu	Lys	Ser	Gln	Asp	Lys	Thr	Gln	Glu	Glu	
	690					695					700					
gaa	cga	aaa	gct	gag	gca	aaa	caa	agt	gag	aca	gcc	agt	gct	ttg	gtg	2160
Glu	Arg	Lys	Ala	Glu	Ala	Lys	Gln	Ser	Glu	Thr	Ala	Ser	Ala	Leu	Val	
	705				710					715					720	
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Asn	Tyr	Arg	Ala	Leu	Tyr	Pro	Phe	Glu	Ala	Arg	Asn	His	Asp	Glu	Met	
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agt	ttt	agt	tct	ggg	gat	ata	att	cag	gtt	gat	gaa	aaa	act	gta	gga	2256
Ser	Phe	Ser	Ser	Gly	Asp	Ile	Ile	Gln	Val	Asp	Glu	Lys	Thr	Val	Gly	
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Glu	Pro	Gly	Trp	Leu	Tyr	Gly	Ser	Phe	Gln	Gly	Lys	Phe	Gly	Trp	Phe	
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ccc	tgc	aac	tat	gta	gaa	aaa	gtg	ctg	tca	agt	gaa	aaa	gct	ctg	tct	2352
Pro	Cys	Asn	Tyr	Val	Glu	Lys	Val	Leu	Ser	Ser	Glu	Lys	Ala	Leu	Ser	
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cct	aag	aag	gcc	tta	ctt	cct	cct	aca	gtg	tct	ctc	tct	gct	acc	tca	2400
Pro	Lys	Lys	Ala	Leu	Leu	Pro	Pro	Thr	Val	Ser	Leu	Ser	Ala	Thr	Ser	
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act	tct	tcc	cag	cca	cca	gca	tca	gtg	act	gat	tat	cac	aat	gta	tcc	2448
Thr	Ser	Ser	Gln	Pro	Pro	Ala	Ser	Val	Thr	Asp	Tyr	His	Asn	Val	Ser	
			805						810					815		
ttc	tca	aac	ctt	act	gtt	aat	aca	aca	tgg	cag	cag	aag	tca	gct	ttt	2496
Phe	Ser	Asn	Leu	Thr	Val	Asn	Thr	Thr	Trp	Gln	Gln	Lys	Ser	Ala	Phe	

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cag	gct	gta	gaa	aac	ctg	aaa	gcc	cag	gcc	ctt	tgt	tcc	tgg	acg	gca	2592		
Gln	Ala	Val	Glu	Asn	Leu	Lys	Ala	Gln	Ala	Leu	Cys	Ser	Trp	Thr	Ala			
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aag	aag	gag	aac	cac	ctg	aac	ttc	tca	aag	cac	gac	gtc	atc	act	gtc	2640		
Lys	Lys	Glu	Asn	His	Leu	Asn	Phe	Ser	Lys	His	Asp	Val	Ile	Thr	Val			
865						870						875						880
ctg	gag	cag	cag	gaa	aac	tgg	tgg	ttt	ggg	gag	gtg	cac	gga	gga	aga	2688		
Leu	Glu	Gln	Gln	Glu	Asn	Trp	Trp	Phe	Gly	Glu	Val	His	Gly	Gly	Arg			
885						890						895						
gga	tgg	ttc	ccc	aag	tct	tat	gtc	aag	ctc	att	cct	ggg	aat	gaa	gta	2736		
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Gln	Arg	Gly	Glu	Pro	Glu	Ala	Leu	Tyr	Ala	Ala	Val	Thr	Lys	Lys	Pro			
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acc	tcc	aca	gcc	tat	cca	gtt	acc	tcc	aca	gcc	tat	cca	gtt	gga	gaa	2832		
Thr	Ser	Thr	Ala	Tyr	Pro	Val	Thr	Ser	Thr	Ala	Tyr	Pro	Val	Gly	Glu			
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gac	tac	att	gca	ctt	tat	tca	tac	tca	agt	gta	gag	ccc	ggg	gat	ttg	2880		
Asp	Tyr	Ile	Ala	Leu	Tyr	Ser	Tyr	Ser	Ser	Val	Glu	Pro	Gly	Asp	Leu			
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965						970						975						
tgg	tgg	aca	gga	agt	att	gga	gag	aga	act	gga	atc	ttc	ccg	tcc	aac	2976		
Trp	Trp	Thr	Gly	Ser	Ile	Gly	Glu	Arg	Thr	Gly	Ile	Phe	Pro	Ser	Asn			
980						985						990						
tac	gtc	aga	cca	aag	gat	caa	gag	aat	ttt	ggg	aat	gct	agc	aaa	tct	3024		
Tyr	Val	Arg	Pro	Lys	Asp	Gln	Glu	Asn	Phe	Gly	Asn	Ala	Ser	Lys	Ser			
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gga	gca	tca	aac	aaa	aaa	ccc	gag	atc	gct	caa	gta	act	tca	gca		3069		
Gly	Ala	Ser	Asn	Lys	Lys	Pro	Glu	Ile	Ala	Gln	Val	Thr	Ser	Ala				
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Tyr	Ala	Ala	Ser	Gly	Thr	Glu	Gln	Leu	Ser	Leu	Ala	Pro	Gly	Gln				
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tta	ata	tta	atc	tta	aag	aaa	aac	aca	agc	ggg	tgg	tgg	caa	gga		3159		
Leu	Ile	Leu	Ile	Leu	Lys	Lys	Asn	Thr	Ser	Gly	Trp	Trp	Gln	Gly				
1040						1045						1050						
gag	cta	cag	gcc	aga	ggg	aag	aaa	cga	cag	aag	gga	tgg	ttt	cct		3204		
Glu	Leu	Gln	Ala	Arg	Gly	Lys	Lys	Arg	Gln	Lys	Gly	Trp	Phe	Pro				
1055						1060						1065						

gcc agc cat gta aag ctg cta ggt cca agc agt gaa aga acc atg	3249
Ala Ser His Val Lys Leu Leu Gly Pro Ser Ser Glu Arg Thr Met	
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cct act ttt cac gct gta tgt caa gtg att gct atg tat gac tac	3294
Pro Thr Phe His Ala Val Cys Gln Val Ile Ala Met Tyr Asp Tyr	
1085 1090 1095	
atg gcg aat aac gaa gat gag ctc aat ttc tcc aaa gga cag ctg	3339
Met Ala Asn Asn Glu Asp Glu Leu Asn Phe Ser Lys Gly Gln Leu	
1100 1105 1110	
att aat gtt atg aac aaa gat gac cct gac tgg tgg caa gga gaa	3384
Ile Asn Val Met Asn Lys Asp Asp Pro Asp Trp Trp Gln Gly Glu	
1115 1120 1125	
acc aat ggt ctg act ggt ctc ttt cct tca aac tat gtt aag atg	3429
Thr Asn Gly Leu Thr Gly Leu Phe Pro Ser Asn Tyr Val Lys Met	
1130 1135 1140	
aca aca gac tca gat cca agt caa cag tgg tgt gct gac ctc caa	3474
Thr Thr Asp Ser Asp Pro Ser Gln Gln Trp Cys Ala Asp Leu Gln	
1145 1150 1155	
gcc ctg gac aca atg cag cct acg gag agg aag cga cag ggc tac	3519
Ala Leu Asp Thr Met Gln Pro Thr Glu Arg Lys Arg Gln Gly Tyr	
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att cac gag ctc att cag aca gag gag cgg tac atg gac gac ctg	3564
Ile His Glu Leu Ile Gln Thr Glu Glu Arg Tyr Met Asp Asp Leu	
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Gln Leu Phe Glu Gln Lys Thr Leu Leu	
1190 1195	

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Lys Pro Ser Gly Gly Tyr Ile Thr Gly Asp Gln Ala Arg Thr Phe Phe
35 40 45

Leu Gln Ser Gly Leu Pro Ala Pro Val Leu Ala Glu Ile Trp Ala Leu
50 55 60

Ser Asp Leu Asn Lys Asp Gly Lys Met Asp Gln Gln Glu Phe Ser Ile
65 70 75 80

Ala Met Lys Leu Ile Lys Leu Lys Leu Gln Gly Gln Gln Leu Pro Val
85 90 95

Val Leu Pro Pro Ile Met Lys Gln Pro Pro Met Phe Ser Pro Leu Ile
100 105 110

Ser Ala Arg Phe Gly Met Gly Ser Met Pro Asn Leu Ser Ile His Gln
115 120 125

Pro Leu Pro Pro Val Ala Pro Ile Ala Thr Pro Leu Ser Ser Ala Thr
130 135 140

Ser Gly Thr Ser Ile Pro Pro Leu Met Met Pro Ala Pro Leu Val Pro
145 150 155 160

Ser Val Ser Thr Ser Ser Leu Pro Asn Gly Thr Ala Ser Leu Ile Gln
165 170 175

Pro Leu Ser Ile Pro Tyr Ser Ser Ser Thr Leu Pro His Ala Ser Ser
180 185 190

Tyr Ser Leu Met Met Gly Gly Phe Gly Gly Ala Ser Ile Gln Lys Ala
195 200 205

Gln Ser Leu Ile Asp Leu Gly Ser Ser Ser Ser Thr Ser Ser Thr Ala
210 215 220

Ser Leu Ser Gly Asn Ser Pro Lys Thr Gly Thr Ser Glu Trp Ala Val
225 230 235 240

Pro Gln Pro Ser Arg Leu Lys Tyr Arg Gln Lys Phe Asn Ser Leu Asp
245 250 255

Lys Gly Met Ser Gly Tyr Leu Ser Gly Phe Gln Ala Arg Asn Ala Leu
260 265 270

Leu Gln Ser Asn Leu Ser Gln Thr Gln Leu Ala Thr Ile Trp Thr Leu
275 280 285

Ala Asp Ile Asp Gly Asp Gly Gln Leu Lys Ala Glu Glu Phe Ile Leu
290 295 300

Ala Met His Leu Thr Asp Met Ala Lys Ala Gly Gln Pro Leu Pro Leu

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Thr	Leu	Pro	Pro	Glu	Leu	Val	Pro	Pro	Ser	Phe	Arg	Gly	Gly	Lys	Gln
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Val	Asp	Ser	Val	Asn	Gly	Thr	Leu	Pro	Ser	Tyr	Gln	Lys	Thr	Gln	Glu
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Glu	Glu	Pro	Gln	Lys	Lys	Leu	Pro	Val	Thr	Phe	Glu	Asp	Lys	Arg	Lys
		355					360					365			
Ala	Asn	Tyr	Glu	Arg	Gly	Asn	Met	Glu	Leu	Glu	Lys	Arg	Arg	Gln	Val
	370					375					380				
Leu	Met	Glu	Gln	Gln	Gln	Arg	Glu	Ala	Glu	Arg	Lys	Ala	Gln	Lys	Glu
385					390					395					400
Lys	Glu	Glu	Trp	Glu	Arg	Lys	Gln	Arg	Glu	Leu	Gln	Glu	Gln	Glu	Trp
				405					410					415	
Lys	Lys	Gln	Leu	Glu	Leu	Glu	Lys	Arg	Leu	Glu	Lys	Gln	Arg	Glu	Leu
			420					425					430		
Glu	Arg	Gln	Arg	Glu	Glu	Glu	Arg	Arg	Lys	Glu	Ile	Glu	Arg	Arg	Glu
		435					440					445			
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	450					455					460				
Leu	Arg	Arg	Gln	Glu	Leu	Leu	Ser	Gln	Lys	Thr	Arg	Glu	Gln	Glu	Asp
465					470					475					480
Ile	Val	Arg	Leu	Ser	Ser	Arg	Lys	Lys	Ser	Leu	His	Leu	Glu	Leu	Glu
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Ala	Val	Asn	Gly	Lys	His	Gln	Gln	Ile	Ser	Gly	Arg	Leu	Gln	Asp	Val
			500					505					510		
Gln	Ile	Arg	Lys	Gln	Thr	Gln	Lys	Thr	Glu	Leu	Glu	Val	Leu	Asp	Lys
		515					520					525			
Gln	Cys	Asp	Leu	Glu	Ile	Met	Glu	Ile	Lys	Gln	Leu	Gln	Gln	Glu	Leu
	530					535					540				
Lys	Glu	Tyr	Gln	Asn	Lys	Leu	Ile	Tyr	Leu	Val	Pro	Glu	Lys	Gln	Leu
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Leu Asn Glu Arg Ile Lys Asn Met Gln Leu Ser Asn Thr Pro Asp Ser
565 570 575

Gly Ile Ser Leu Leu His Lys Lys Ser Ser Glu Lys Glu Glu Leu Cys
580 585 590

Gln Arg Leu Lys Glu Gln Leu Asp Ala Leu Glu Lys Glu Thr Ala Ser
595 600 605

Lys Leu Ser Glu Met Asp Ser Phe Asn Asn Gln Leu Lys Glu Leu Arg
610 615 620

Glu Ser Tyr Asn Thr Gln Gln Leu Ala Leu Glu Gln Leu His Lys Ile
625 630 635 640

Lys Arg Asp Lys Leu Lys Glu Ile Glu Arg Lys Arg Leu Glu Gln Ile
645 650 655

Gln Lys Lys Lys Leu Glu Asp Glu Ala Ala Arg Lys Ala Lys Gln Gly
660 665 670

Lys Glu Asn Leu Trp Arg Glu Ser Ile Arg Lys Glu Glu Glu Lys
675 680 685

Gln Lys Arg Leu Gln Glu Glu Lys Ser Gln Asp Lys Thr Gln Glu Glu
690 695 700

Glu Arg Lys Ala Glu Ala Lys Gln Ser Glu Thr Ala Ser Ala Leu Val
705 710 715 720

Asn Tyr Arg Ala Leu Tyr Pro Phe Glu Ala Arg Asn His Asp Glu Met
725 730 735

Ser Phe Ser Ser Gly Asp Ile Ile Gln Val Asp Glu Lys Thr Val Gly
740 745 750

Glu Pro Gly Trp Leu Tyr Gly Ser Phe Gln Gly Lys Phe Gly Trp Phe
755 760 765

Pro Cys Asn Tyr Val Glu Lys Val Leu Ser Ser Glu Lys Ala Leu Ser
770 775 780

Pro Lys Lys Ala Leu Leu Pro Pro Thr Val Ser Leu Ser Ala Thr Ser
785 790 795 800

Thr Ser Ser Gln Pro Pro Ala Ser Val Thr Asp Tyr His Asn Val Ser
805 810 815

Phe Ser Asn Leu Thr Val Asn Thr Thr Trp Gln Gln Lys Ser Ala Phe
820 825 830

Thr Arg Thr Val Ser Pro Gly Ser Val Ser Pro Ile His Gly Gln Gly
835 840 845

Gln Ala Val Glu Asn Leu Lys Ala Gln Ala Leu Cys Ser Trp Thr Ala
850 855 860

Lys Lys Glu Asn His Leu Asn Phe Ser Lys His Asp Val Ile Thr Val
865 870 875 880

Leu Glu Gln Gln Glu Asn Trp Trp Phe Gly Glu Val His Gly Gly Arg
885 890 895

Gly Trp Phe Pro Lys Ser Tyr Val Lys Leu Ile Pro Gly Asn Glu Val
900 905 910

Gln Arg Gly Glu Pro Glu Ala Leu Tyr Ala Ala Val Thr Lys Lys Pro
915 920 925

Thr Ser Thr Ala Tyr Pro Val Thr Ser Thr Ala Tyr Pro Val Gly Glu
930 935 940

Asp Tyr Ile Ala Leu Tyr Ser Tyr Ser Ser Val Glu Pro Gly Asp Leu
945 950 955 960

Thr Phe Thr Glu Gly Glu Glu Ile Leu Val Thr Gln Lys Asp Gly Glu
965 970 975

Trp Trp Thr Gly Ser Ile Gly Glu Arg Thr Gly Ile Phe Pro Ser Asn
980 985 990

Tyr Val Arg Pro Lys Asp Gln Glu Asn Phe Gly Asn Ala Ser Lys Ser
995 1000 1005

Gly Ala Ser Asn Lys Lys Pro Glu Ile Ala Gln Val Thr Ser Ala
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Tyr Ala Ala Ser Gly Thr Glu Gln Leu Ser Leu Ala Pro Gly Gln
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Leu Ile Leu Ile Leu Lys Lys Asn Thr Ser Gly Trp Trp Gln Gly
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Glu Leu Gln Ala Arg Gly Lys Lys Arg Gln Lys Gly Trp Phe Pro
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Ala Ser His Val Lys Leu Leu Gly Pro Ser Ser Glu Arg Thr Met
1070 1075 1080

Pro Thr Phe His Ala Val Cys Gln Val Ile Ala Met Tyr Asp Tyr
1085 1090 1095

Met Ala Asn Asn Glu Asp Glu Leu Asn Phe Ser Lys Gly Gln Leu
1100 1105 1110

Ile Asn Val Met Asn Lys Asp Asp Pro Asp Trp Trp Gln Gly Glu
1115 1120 1125

Thr Asn Gly Leu Thr Gly Leu Phe Pro Ser Asn Tyr Val Lys Met
1130 1135 1140

Thr Thr Asp Ser Asp Pro Ser Gln Gln Trp Cys Ala Asp Leu Gln
1145 1150 1155

Ala Leu Asp Thr Met Gln Pro Thr Glu Arg Lys Arg Gln Gly Tyr
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Ile His Glu Leu Ile Gln Thr Glu Glu Arg Tyr Met Asp Asp Leu
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Glu Gln Tyr Ile Asp Thr Glu Lys Lys Lys Arg Glu Lys Ala Tyr Gln
 35 40 45

Ala Arg Ser Gln Lys Thr Ser Gly Ile Gly Arg Leu Met Val His Val
 50 55 60

Ile Glu Ala Thr Glu Leu Lys Ala Cys Lys Pro Asn Gly Lys Ser Asn
 65 70 75 80

Pro Tyr Cys Glu Val Ser Met Gly Ser Gln Ser Tyr Thr Thr Arg Thr
 85 90 95

Leu Gln Asp Thr Leu Asn Pro Lys Trp Asn Phe Asn Cys Gln Phe Phe
 100 105 110

Ile Lys Asp Leu Tyr Gln Asp Val Leu Cys Leu Thr Met Phe Asp Arg
 115 120 125

Asp Gln Phe Ser Pro Asp Asp Phe Leu Gly Arg Thr Glu Val Pro Val
 130 135 140

Ala Lys Ile Arg Thr Glu Gln Glu Ser Lys Gly Pro Thr Thr Arg Arg
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Leu Gln Leu Phe Glu Gln Lys Thr Leu Leu
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<212> PRT
<213> Mus musculus

<400> 10

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Gln Arg Lys Gly Lys Gly Ala Val Gly Ala Tyr Gly Ser Glu Arg Thr	50	55	60
Thr Gln Ser Leu Gln Asp Phe Pro Val Ala Asp Ser Glu Glu Glu Ala	65	70	75
Glu Glu Glu Phe Gln Lys Glu Leu Ser Gln Trp Arg Lys Asp Pro Ser	85	90	95
Gly Ser Lys Lys Lys Pro Lys Tyr Ser Tyr Lys Thr Val Glu Glu Leu	100	105	110
Lys Ala Lys Gly Arg Val Ser Lys Lys Leu Thr Ala Pro Gln Lys Glu	115	120	125
Leu Ser Gln Val Lys Val Ile Asp Met Thr Gly Arg Glu Gln Lys Val	130	135	140
Tyr Tyr Ser Tyr Ser Gln Ile Ser His Lys His Ser Val Pro Asp Glu	145	150	155
Gly Val Pro Leu Leu Ala Gln Leu Pro Pro Thr Ala Gly Lys Glu Ala	165	170	175
Arg Met Pro Gly Phe Ala Leu Pro Glu Leu Glu His Asn Leu Gln Leu	180	185	190
Leu Ile Glu Arg Thr Glu Gln Glu Ile Ile Gln Ser Asp Arg Gln Leu	195	200	205
Gln Tyr Glu Arg Asp Met Val Val Ser Leu Ser His Glu Leu Glu Lys	210	215	220
Thr Ala Glu Val Leu Ala His Glu Glu Arg Val Ile Ser Asn Leu Ser	225	230	235
Lys Val Leu Ala Leu Val Glu Glu Cys Glu Arg Arg Met Gln Pro His	245	250	255

Gly Thr Asp Pro Leu Thr Leu Asp Glu Cys Ala Arg Ile Phe Glu Thr
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Leu Gln Asp Lys Tyr Tyr Glu Glu Tyr Arg Leu Ala Asp Arg Ala Asp
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290 295 300

Trp His Pro Ser Arg
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<212> DNA
<213> Mus musculus

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<212> DNA
<213> Mus musculus

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<210> 13
<211> 140
<212> DNA
<213> Mus musculus

<400> 13
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<210> 14
<211> 2855
<212> DNA
<213> Mus musculus

<400> 14

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<210> 15
 <211> 1151
 <212> DNA
 <213> Mus musculus

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<210> 16
 <211> 382
 <212> PRT
 <213> Mus musculus

<400> 16

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 35 40 45

Ser Ala Asn Pro Ala Lys Thr Met Gln Gly Ser Glu Val Val Ser Val
 50 55 60

Leu Lys Ser Leu Leu Ser Asn Leu Asp Glu Ile Lys Lys Glu Arg Glu
 65 70 75 80

Ser Leu Glu Asn Asp Leu Lys Ser Val Asn Phe Asp Met Thr Ser Lys
 85 90 95

Phe Leu Thr Ala Leu Ala Gln Asp Gly Val Ile Asn Glu Glu Ala Leu
 100 105 110

Ser Val Thr Glu Leu Asp Arg Ile Tyr Gly Gly Leu Thr Ser Lys Val
 115 120 125

Gln Glu Ser Leu Lys Lys Gln Glu Gly Leu Leu Lys Asn Ile Gln Val
 130 135 140

Ser His Gln Glu Phe Ser Lys Met Lys Gln Ser Asn Asn Glu Ala Asn
 145 150 155 160

Leu Arg Glu Glu Val Leu Lys Asn Leu Ala Thr Ala Tyr Asp Asn Phe
 165 170 175

Val Glu Leu Val Ala Asn Leu Lys Glu Gly Thr Lys Phe Tyr Asn Glu
 180 185 190

Leu Thr Glu Ile Leu Val Arg Phe Gln Asn Lys Cys Ser Asp Ile Val
 195 200 205

Phe Ala Arg Lys Thr Glu Arg Asp Glu Leu Leu Lys Asp Leu Gln Gln
 210 215 220

Ser Ile Ala Arg Glu Pro Ser Ala Pro Ser Ile Pro Pro Pro Ala Tyr
 225 230 235 240

Gln Ser Ser Pro Ala Ala Gly His Ala Ala Ala Pro Pro Thr Pro Ala
 245 250 255

Pro Arg Thr Met Pro Pro Ala Lys Pro Gln Pro Pro Ala Arg Pro Pro
 260 265 270

Pro Pro Val Leu Pro Ala Asn Arg Val Pro Pro Ala Ser Ala Ala Ala
 275 280 285

Ala Pro Ala Gly Val Gly Thr Ala Ser Ala Ala Pro Pro Gln Thr Pro
 290 295 300

Gly Ser Ala Pro Pro Pro Gln Ala Gln Gly Pro Pro Tyr Pro Thr Tyr
 305 310 315 320

Pro Gly Tyr Pro Gly Tyr Cys Gln Met Pro Met Pro Met Gly Tyr Asn
 325 330 335

Pro Tyr Ala Tyr Gly Gln Tyr Asn Met Pro Tyr Pro Pro Val Tyr His
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Gln Ser Pro Gly Gln Ala Pro Tyr Pro Gly Pro Gln Gln Pro Thr Tyr
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<210> 17
 <211> 1738
 <212> DNA
 <213> Mus musculus

<400> 17
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<210> 18
 <211> 1521
 <212> DNA
 <213> Mus musculus

<220>
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<210> 19
 <211> 720
 <212> DNA
 <213> Mus musculus

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<210> 20
 <211> 801
 <212> DNA
 <213> Mus musculus

<400> 20	
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<210> 21
 <211> 119
 <212> DNA
 <213> Mus musculus

<400> 21	
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<210> 22
 <211> 5738
 <212> DNA
 <213> Mus musculus

<400> 22	
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Leu	Ile	Ser	Gly	Pro	Val	Arg	Lys	Ser	Thr	Ser	Ile	Asp	Thr	Gly	Pro		
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Pro	Glu	Ile	Ala	Gln	Val	Ile	Ala	Ser	Tyr	Ala	Ala	Thr	Gly	Pro	
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Glu	Gln	Leu	Thr	Leu	Ala	Pro	Gly	Gln	Leu	Ile	Leu	Ile	Arg	Lys	
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Lys	Asn	Pro	Gly	Gly	Trp	Trp	Glu	Gly	Glu	Leu	Gln	Ala	Arg	Gly	
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Lys	Lys	Arg	Gln	Ile	Gly	Trp	Phe	Pro	Ala	Asn	Tyr	Val	Lys	Leu	
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Phe Gln Ser Gly Leu Pro Gln Pro Val Leu Ala Gln Ile Trp Ala Leu
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Ala Asp Met Asn Asn Asp Gly Arg Met Asp Gln Val Glu Phe Ser Ile
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Ala Met Lys Leu Ile Lys Leu Lys Leu Gln Gly Tyr Gln Leu Pro Ser
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Gly Ala Pro Pro Val Ile Gln Pro Leu Pro Ala Phe Ala His Pro Ala
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Ala Thr Trp Pro Lys Ser Ser Ser Phe Ser Arg Ser Gly Pro Gly Ser
180 185 190

Gln Leu Asn Thr Lys Leu Gln Lys Ala Gln Ser Phe Asp Val Ala Ser
195 200 205

Ala Pro Pro Ala Ala Glu Trp Ala Val Pro Gln Ser Ser Arg Leu Lys
210 215 220

Tyr Arg Gln Leu Phe Asn Ser His Asp Lys Thr Met Ser Gly His Leu
225 230 235 240

Thr Gly Pro Gln Ala Arg Thr Ile Leu Met Gln Ser Ser Leu Pro Gln
245 250 255

Ala Gln Leu Ala Ser Ile Trp Asn Leu Ser Asp Ile Asp Gln Asp Gly
260 265 270

Lys Leu Thr Ala Glu Glu Phe Ile Leu Ala Met His Leu Ile Asp Val
275 280 285

Ala Met Ser Gly Gln Pro Leu Pro Pro Val Leu Pro Pro Glu Tyr Ile
290 295 300

Pro Pro Ser Phe Arg Arg Val Arg Ser Gly Ser Gly Met Ser Val Ile
305 310 315 320

Ser Ser Ser Ser Val Asp Gln Arg Leu Pro Glu Glu Pro Ser Ser Glu
325 330 335

Asp Glu Gln Gln Pro Glu Lys Lys Leu Pro Val Thr Phe Glu Asp Lys
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Leu Glu Arg Ala Glu Gln Glu Arg Lys Glu Arg Glu Arg Gln Glu Gln
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Glu Ala Lys Arg Gln Leu Glu Leu Glu Lys Gln Leu Glu Lys Gln Arg
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Glu Leu Glu Arg Gln Arg Glu Glu Glu Arg Arg Lys Glu Ile Glu Arg
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Arg Glu Ala Ala Lys Arg Glu Leu Glu Arg Gln Arg Gln Leu Glu Trp
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Glu Arg Asn Arg Arg Gln Glu Leu Leu Asn Gln Arg Asn Lys Glu Gln
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Glu Gly Thr Val Val Leu Lys Ala Arg Arg Lys Thr Leu Glu Phe Glu
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Asp Ile Arg Cys Arg Leu Ala Thr Gln Arg Gln Glu Ile Glu Ser Thr
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Asn Lys Ser Arg Glu Leu Arg Ile Ala Glu Ile Thr His Leu Gln Gln
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Gln Leu Gln Glu Ser Gln Gln Met Leu Gly Arg Leu Ile Pro Glu Lys
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Pro Trp Ser Thr Thr Glu Lys Gly Pro Leu Thr Ile Ser Ala Gln Glu
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Ala Pro Lys Leu Ala Leu Arg Glu Thr Pro Ala Pro Leu Pro Val Thr
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Arg Gln Arg Ser Ala Phe Thr Pro Ala Thr Ala Thr Gly Ser Ser Pro
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Ser Pro Val Leu Gly Gln Gly Glu Lys Val Glu Gly Leu Gln Ala Gln

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Pro Ala Ile Pro Gly Glu	Glu Phe Ile Ala Met Tyr	Thr Tyr Glu Ser
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Val Thr Lys Lys Asp Gly	Asp Trp Trp Thr Gly	Thr Val Gly Asp
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Glu Gln Leu Thr Leu Ala	Pro Gly Gln Leu Ile	Leu Ile Arg Lys
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Ala Leu Asp Thr Met Gln Pro Thr Glu Arg Lys Arg Gln Gly Tyr	
1160 1165 1170	
att cac gag ctc att cag aca gag gag cgg tac atg gac gac gac	3564
Ile His Glu Leu Ile Gln Thr Glu Glu Arg Tyr Met Asp Asp Asp	
1175 1180 1185	
ctg cag ctg gtc atc gag gtc ttc cag aaa cgg atg gct gag gaa	3609
Leu Gln Leu Val Ile Glu Val Phe Gln Lys Arg Met Ala Glu Glu	
1190 1195 1200	
ggc ttc ctc act gaa gca gac atg gct ctg atc ttt gtg aac tgg	3654
Gly Phe Leu Thr Glu Ala Asp Met Ala Leu Ile Phe Val Asn Trp	
1205 1210 1215	
aaa gag ctc atc atg tcc aac acg aag ctg ctg agg gcc ttg cgg	3699
Lys Glu Leu Ile Met Ser Asn Thr Lys Leu Leu Arg Ala Leu Arg	
1220 1225 1230	
gtg agg aag aag act ggg ggt gag aag atg cca gtt cag atg att	3744
Val Arg Lys Lys Thr Gly Gly Glu Lys Met Pro Val Gln Met Ile	
1235 1240 1245	
gga gac atc ctg gcg gca gag ctg tcc cac atg cag gcc tac atc	3789
Gly Asp Ile Leu Ala Ala Glu Leu Ser His Met Gln Ala Tyr Ile	
1250 1255 1260	
cgc ttc tgc agc tgt cag ctt aat ggg gca acc ctg tta cag cag	3834
Arg Phe Cys Ser Cys Gln Leu Asn Gly Ala Thr Leu Leu Gln Gln	
1265 1270 1275	
aag aca gac gag gac acg gac ttc aag gaa ttt cta aag aag ttg	3879
Lys Thr Asp Glu Asp Thr Asp Phe Lys Glu Phe Leu Lys Lys Leu	
1280 1285 1290	
gca tca gac cca cga tgc aaa ggg atg ccc ctc tcc agc ttc ctg	3924
Ala Ser Asp Pro Arg Cys Lys Gly Met Pro Leu Ser Ser Phe Leu	
1295 1300 1305	
ctg aag ccc atg cag agg atc act cgc tac ccg ctg ctc atc cga	3969
Leu Lys Pro Met Gln Arg Ile Thr Arg Tyr Pro Leu Leu Ile Arg	
1310 1315 1320	
agt atc ctg gag aac act cca cag agt cat gtt gac cac tcc tcc	4014
Ser Ile Leu Glu Asn Thr Pro Gln Ser His Val Asp His Ser Ser	
1325 1330 1335	
ctg aag ctg gcc cta gaa cgt gct gag gag ctg tgc tct cag gtg	4059
Leu Lys Leu Ala Leu Glu Arg Ala Glu Glu Leu Cys Ser Gln Val	
1340 1345 1350	
aac gag gga gtc cgg gag aag gaa aat tca gac cgg ctg gag tgg	4104
Asn Glu Gly Val Arg Glu Lys Glu Asn Ser Asp Arg Leu Glu Trp	
1355 1360 1365	
atc cag gca cac gtg cag tgc gaa ggc ttg gca gag caa ctt att	4149
Ile Gln Ala His Val Gln Cys Glu Gly Leu Ala Glu Gln Leu Ile	
1370 1375 1380	
ttc aac tcc ctc acc aac tgc ctg ggc ccc cgg aag ctt ctg cac	4194

Phe	Asn	Ser	Leu	Thr	Asn	Cys	Leu	Gly	Pro	Arg	Lys	Leu	Leu	His	
1385						1390					1395				
agc	ggg	aag	ctg	tac	aag	acc	aag	agc	aat	aag	gag	ctg	cac	gcc	4239
Ser	Gly	Lys	Leu	Tyr	Lys	Thr	Lys	Ser	Asn	Lys	Glu	Leu	His	Ala	
1400						1405					1410				
ttc	ctc	ttc	aac	gac	ttc	ctg	ctg	ctc	acc	tac	ctg	gtc	agg	cag	4284
Phe	Leu	Phe	Asn	Asp	Phe	Leu	Leu	Leu	Thr	Tyr	Leu	Val	Arg	Gln	
1415						1420					1425				
ttt	gcc	gcc	gcc	tct	ggc	cac	gag	aag	ctc	ttc	aac	tcc	aag	tcc	4329
Phe	Ala	Ala	Ala	Ser	Gly	His	Glu	Lys	Leu	Phe	Asn	Ser	Lys	Ser	
1430						1435					1440				
agt	gct	cag	ttc	cgg	atg	tac	aaa	acg	ccc	att	ttc	ctg	aat	gaa	4374
Ser	Ala	Gln	Phe	Arg	Met	Tyr	Lys	Thr	Pro	Ile	Phe	Leu	Asn	Glu	
1445						1450					1455				
gtg	ttg	gtg	aaa	ctt	ccc	aca	gac	cct	tcc	ggc	gat	gag	ccc	gtc	4419
Val	Leu	Val	Lys	Leu	Pro	Thr	Asp	Pro	Ser	Gly	Asp	Glu	Pro	Val	
1460						1465					1470				
ttc	cac	att	tcc	cac	att	gat	cgt	gtg	tac	aca	ctc	cga	aca	gac	4464
Phe	His	Ile	Ser	His	Ile	Asp	Arg	Val	Tyr	Thr	Leu	Arg	Thr	Asp	
1475						1480					1485				
aac	atc	aac	gag	agg	acg	gcc	tgg	gtc	cag	aag	atc	aag	ggg	gcc	4509
Asn	Ile	Asn	Glu	Arg	Thr	Ala	Trp	Val	Gln	Lys	Ile	Lys	Gly	Ala	
1490						1495					1500				
tca	gag	cag	tac	atc	gac	act	gag	aag	aag	aaa	cgg	gaa	aag	gct	4554
Ser	Glu	Gln	Tyr	Ile	Asp	Thr	Glu	Lys	Lys	Lys	Arg	Glu	Lys	Ala	
1505						1510					1515				
tac	caa	gcc	cgt	tct	caa	aag	act	tca	ggg	att	ggg	cgt	ctg	atg	4599
Tyr	Gln	Ala	Arg	Ser	Gln	Lys	Thr	Ser	Gly	Ile	Gly	Arg	Leu	Met	
1520						1525					1530				
gtg	cat	gtc	att	gaa	gct	aca	gaa	tta	aaa	gcc	tgc	aaa	cca	aac	4644
Val	His	Val	Ile	Glu	Ala	Thr	Glu	Leu	Lys	Ala	Cys	Lys	Pro	Asn	
1535						1540					1545				
ggg	aaa	agt	aat	cca	tac	tgt	gaa	gtc	agc	atg	ggc	tcc	caa	agc	4689
Gly	Lys	Ser	Asn	Pro	Tyr	Cys	Glu	Val	Ser	Met	Gly	Ser	Gln	Ser	
1550						1555					1560				
tat	acc	acc	agg	acc	ctg	cag	gac	aca	cta	aac	ccc	aag	tgg	aac	4734
Tyr	Thr	Thr	Arg	Thr	Leu	Gln	Asp	Thr	Leu	Asn	Pro	Lys	Trp	Asn	
1565						1570					1575				
ttc	aac	tgc	cag	ttc	ttc	atc	aag	gat	ctt	tac	cag	gac	gtt	ctg	4779
Phe	Asn	Cys	Gln	Phe	Phe	Ile	Lys	Asp	Leu	Tyr	Gln	Asp	Val	Leu	
1580						1585					1590				
tgt	ctc	act	atg	ttt	gac	aga	gac	cag	ttt	tct	cca	gat	gac	ttc	4824
Cys	Leu	Thr	Met	Phe	Asp	Arg	Asp	Gln	Phe	Ser	Pro	Asp	Asp	Phe	
1595						1600					1605				
ttg	ggg	cgt	act	gaa	gtt	cca	gtg	gca	aaa	atc	cga	aca	gaa	cag	4869
Leu	Gly	Arg	Thr	Glu	Val	Pro	Val	Ala	Lys	Ile	Arg	Thr	Glu	Gln	

1610	1615	1620	
gaa agc aaa ggc ccc acc acc	cgc cga cta cta ctg	cac gaa gtc	4914
Glu Ser Lys Gly Pro Thr Thr	Arg Arg Leu Leu Leu	His Glu Val	
1625	1630	1635	
ccc act gga gaa gtc tgg gtc	cgc ttt gac ctg caa	ctt ttt gaa	4959
Pro Thr Gly Glu Val Trp Val	Arg Phe Asp Leu Gln	Leu Phe Glu	
1640	1645	1650	
caa aaa act ctc ctt tga			4977
Gln Lys Thr Leu Leu			
1655			

<210> 27
 <211> 1658
 <212> PRT
 <213> Mus musculus

<400> 27

Met Ala Gln Phe Pro Thr Ala Met Asn Gly Gly Pro Asn Met Trp Ala
1 5 10 15

Ile Thr Ser Glu Glu Arg Thr Lys His Asp Lys Gln Phe Asp Asn Leu
20 25 30

Lys Pro Ser Gly Gly Tyr Ile Thr Gly Asp Gln Ala Arg Thr Phe Phe
35 40 45

Leu Gln Ser Gly Leu Pro Ala Pro Val Leu Ala Glu Ile Trp Ala Leu
50 55 60

Ser Asp Leu Asn Lys Asp Gly Lys Met Asp Gln Gln Glu Phe Ser Ile
65 70 75 80

Ala Met Lys Leu Ile Lys Leu Lys Leu Gln Gly Gln Gln Leu Pro Val
85 90 95

Val Leu Pro Pro Ile Met Lys Gln Pro Pro Met Phe Ser Pro Leu Ile
100 105 110

Ser Ala Arg Phe Gly Met Gly Ser Met Pro Asn Leu Ser Ile His Gln
115 120 125

Pro Leu Pro Pro Val Ala Pro Ile Ala Thr Pro Leu Ser Ser Ala Thr
130 135 140

Ser Gly Thr Ser Ile Pro Pro Leu Met Met Pro Ala Pro Leu Val Pro
145 150 155 160

Ser Val Ser Thr Ser Ser Leu Pro Asn Gly Thr Ala Ser Leu Ile Gln
165 170 175

Pro Leu Ser Ile Pro Tyr Ser Ser Ser Thr Leu Pro His Ala Ser Ser
180 185 190

Tyr Ser Leu Met Met Gly Gly Phe Gly Gly Ala Ser Ile Gln Lys Ala
195 200 205

Gln Ser Leu Ile Asp Leu Gly Ser Ser Ser Ser Thr Ser Ser Thr Ala
210 215 220

Ser Leu Ser Gly Asn Ser Pro Lys Thr Gly Thr Ser Glu Trp Ala Val
225 230 235 240

Pro Gln Pro Ser Arg Leu Lys Tyr Arg Gln Lys Phe Asn Ser Leu Asp
245 250 255

Lys Gly Met Ser Gly Tyr Leu Ser Gly Phe Gln Ala Arg Asn Ala Leu
260 265 270

Leu Gln Ser Asn Leu Ser Gln Thr Gln Leu Ala Thr Ile Trp Thr Leu
275 280 285

Ala Asp Ile Asp Gly Asp Gly Gln Leu Lys Ala Glu Glu Phe Ile Leu
290 295 300

Ala Met His Leu Thr Asp Met Ala Lys Ala Gly Gln Pro Leu Pro Leu
305 310 315 320

Thr Leu Pro Pro Glu Leu Val Pro Pro Ser Phe Arg Gly Gly Lys Gln
325 330 335

Val Asp Ser Val Asn Gly Thr Leu Pro Ser Tyr Gln Lys Thr Gln Glu
340 345 350

Glu Glu Pro Gln Lys Lys Leu Pro Val Thr Phe Glu Asp Lys Arg Lys
355 360 365

Ala Asn Tyr Glu Arg Gly Asn Met Glu Leu Glu Lys Arg Arg Gln Val
370 375 380

Leu Met Glu Gln Gln Gln Arg Glu Ala Glu Arg Lys Ala Gln Lys Glu
385 390 395 400

Lys Glu Glu Trp Glu Arg Lys Gln Arg Glu Leu Gln Glu Gln Glu Trp
405 410 415

Lys Lys Gln Leu Glu Leu Glu Lys Arg Leu Glu Lys Gln Arg Glu Leu
420 425 430

Glu Arg Gln Arg Glu Glu Glu Arg Arg Lys Glu Ile Glu Arg Arg Glu
435 440 445

Ala Ala Lys Gln Glu Leu Glu Arg Gln Arg Arg Leu Glu Trp Glu Arg
450 455 460

Leu Arg Arg Gln Glu Leu Leu Ser Gln Lys Thr Arg Glu Gln Glu Asp
465 470 475 480

Ile Val Arg Leu Ser Ser Arg Lys Lys Ser Leu His Leu Glu Leu Glu
485 490 495

Ala Val Asn Gly Lys His Gln Gln Ile Ser Gly Arg Leu Gln Asp Val
500 505 510

Gln Ile Arg Lys Gln Thr Gln Lys Thr Glu Leu Glu Val Leu Asp Lys
515 520 525

Gln Cys Asp Leu Glu Ile Met Glu Ile Lys Gln Leu Gln Gln Glu Leu
530 535 540

Lys Glu Tyr Gln Asn Lys Leu Ile Tyr Leu Val Pro Glu Lys Gln Leu
545 550 555 560

Leu Asn Glu Arg Ile Lys Asn Met Gln Leu Ser Asn Thr Pro Asp Ser
565 570 575

Gly Ile Ser Leu Leu His Lys Lys Ser Ser Glu Lys Glu Glu Leu Cys
580 585 590

Gln Arg Leu Lys Glu Gln Leu Asp Ala Leu Glu Lys Glu Thr Ala Ser
595 600 605

Lys Leu Ser Glu Met Asp Ser Phe Asn Asn Gln Leu Lys Glu Leu Arg
610 615 620

Glu Ser Tyr Asn Thr Gln Gln Leu Ala Leu Glu Gln Leu His Lys Ile
625 630 635 640

Lys Arg Asp Lys Leu Lys Glu Ile Glu Arg Lys Arg Leu Glu Gln Ile

645	650	655
Gln Lys Lys Lys Leu Glu Asp Glu Ala Ala Arg Lys Ala Lys Gln Gly 660 665 670		
Lys Glu Asn Leu Trp Arg Glu Ser Ile Arg Lys Glu Glu Glu Glu Lys 675 680 685		
Gln Lys Arg Leu Gln Glu Glu Lys Ser Gln Asp Lys Thr Gln Glu Glu 690 695 700		
Glu Arg Lys Ala Glu Ala Lys Gln Ser Glu Thr Ala Ser Ala Leu Val 705 710 715 720		
Asn Tyr Arg Ala Leu Tyr Pro Phe Glu Ala Arg Asn His Asp Glu Met 725 730 735		
Ser Phe Ser Ser Gly Asp Ile Ile Gln Val Asp Glu Lys Thr Val Gly 740 745 750		
Glu Pro Gly Trp Leu Tyr Gly Ser Phe Gln Gly Lys Phe Gly Trp Phe 755 760 765		
Pro Cys Asn Tyr Val Glu Lys Val Leu Ser Ser Glu Lys Ala Leu Ser 770 775 780		
Pro Lys Lys Ala Leu Leu Pro Pro Thr Val Ser Leu Ser Ala Thr Ser 785 790 795 800		
Thr Ser Ser Gln Pro Pro Ala Ser Val Thr Asp Tyr His Asn Val Ser 805 810 815		
Phe Ser Asn Leu Thr Val Asn Thr Thr Trp Gln Gln Lys Ser Ala Phe 820 825 830		
Thr Arg Thr Val Ser Pro Gly Ser Val Ser Pro Ile His Gly Gln Gly 835 840 845		
Gln Ala Val Glu Asn Leu Lys Ala Gln Ala Leu Cys Ser Trp Thr Ala 850 855 860		
Lys Lys Glu Asn His Leu Asn Phe Ser Lys His Asp Val Ile Thr Val 865 870 875 880		
Leu Glu Gln Gln Glu Asn Trp Trp Phe Gly Glu Val His Gly Gly Arg 885 890 895		

Gly Trp Phe Pro Lys Ser Tyr Val Lys Leu Ile Pro Gly Asn Glu Val
900 905 910

Gln Arg Gly Glu Pro Glu Ala Leu Tyr Ala Ala Val Thr Lys Lys Pro
915 920 925

Thr Ser Thr Ala Tyr Pro Val Thr Ser Thr Ala Tyr Pro Val Gly Glu
930 935 940

Asp Tyr Ile Ala Leu Tyr Ser Tyr Ser Ser Val Glu Pro Gly Asp Leu
945 950 955 960

Thr Phe Thr Glu Gly Glu Glu Ile Leu Val Thr Gln Lys Asp Gly Glu
965 970 975

Trp Trp Thr Gly Ser Ile Gly Glu Arg Thr Gly Ile Phe Pro Ser Asn
980 985 990

Tyr Val Arg Pro Lys Asp Gln Glu Asn Phe Gly Asn Ala Ser Lys Ser
995 1000 1005

Gly Ala Ser Asn Lys Lys Pro Glu Ile Ala Gln Val Thr Ser Ala
1010 1015 1020

Tyr Ala Ala Ser Gly Thr Glu Gln Leu Ser Leu Ala Pro Gly Gln
1025 1030 1035

Leu Ile Leu Ile Leu Lys Lys Asn Thr Ser Gly Trp Trp Gln Gly
1040 1045 1050

Glu Leu Gln Ala Arg Gly Lys Lys Arg Gln Lys Gly Trp Phe Pro
1055 1060 1065

Ala Ser His Val Lys Leu Leu Gly Pro Ser Ser Glu Arg Thr Met
1070 1075 1080

Pro Thr Phe His Ala Val Cys Gln Val Ile Ala Met Tyr Asp Tyr
1085 1090 1095

Met Ala Asn Asn Glu Asp Glu Leu Asn Phe Ser Lys Gly Gln Leu
1100 1105 1110

Ile Asn Val Met Asn Lys Asp Asp Pro Asp Trp Trp Gln Gly Glu
1115 1120 1125

Thr	Asn	Gly	Leu	Thr	Gly	Leu	Phe	Pro	Ser	Asn	Tyr	Val	Lys	Met
1130						1135					1140			
Thr	Thr	Asp	Ser	Asp	Pro	Ser	Gln	Gln	Trp	Cys	Ala	Asp	Leu	Gln
1145						1150					1155			
Ala	Leu	Asp	Thr	Met	Gln	Pro	Thr	Glu	Arg	Lys	Arg	Gln	Gly	Tyr
1160						1165					1170			
Ile	His	Glu	Leu	Ile	Gln	Thr	Glu	Glu	Arg	Tyr	Met	Asp	Asp	Asp
1175						1180					1185			
Leu	Gln	Leu	Val	Ile	Glu	Val	Phe	Gln	Lys	Arg	Met	Ala	Glu	Glu
1190						1195					1200			
Gly	Phe	Leu	Thr	Glu	Ala	Asp	Met	Ala	Leu	Ile	Phe	Val	Asn	Trp
1205						1210					1215			
Lys	Glu	Leu	Ile	Met	Ser	Asn	Thr	Lys	Leu	Leu	Arg	Ala	Leu	Arg
1220						1225					1230			
Val	Arg	Lys	Lys	Thr	Gly	Gly	Glu	Lys	Met	Pro	Val	Gln	Met	Ile
1235						1240					1245			
Gly	Asp	Ile	Leu	Ala	Ala	Glu	Leu	Ser	His	Met	Gln	Ala	Tyr	Ile
1250						1255					1260			
Arg	Phe	Cys	Ser	Cys	Gln	Leu	Asn	Gly	Ala	Thr	Leu	Leu	Gln	Gln
1265						1270					1275			
Lys	Thr	Asp	Glu	Asp	Thr	Asp	Phe	Lys	Glu	Phe	Leu	Lys	Lys	Leu
1280						1285					1290			
Ala	Ser	Asp	Pro	Arg	Cys	Lys	Gly	Met	Pro	Leu	Ser	Ser	Phe	Leu
1295						1300					1305			
Leu	Lys	Pro	Met	Gln	Arg	Ile	Thr	Arg	Tyr	Pro	Leu	Leu	Ile	Arg
1310						1315					1320			
Ser	Ile	Leu	Glu	Asn	Thr	Pro	Gln	Ser	His	Val	Asp	His	Ser	Ser
1325						1330					1335			
Leu	Lys	Leu	Ala	Leu	Glu	Arg	Ala	Glu	Glu	Leu	Cys	Ser	Gln	Val
1340						1345					1350			

Asn	Glu	Gly	Val	Arg	Glu	Lys	Glu	Asn	Ser	Asp	Arg	Leu	Glu	Trp
1355						1360					1365			
Ile	Gln	Ala	His	Val	Gln	Cys	Glu	Gly	Leu	Ala	Glu	Gln	Leu	Ile
1370						1375					1380			
Phe	Asn	Ser	Leu	Thr	Asn	Cys	Leu	Gly	Pro	Arg	Lys	Leu	Leu	His
1385						1390					1395			
Ser	Gly	Lys	Leu	Tyr	Lys	Thr	Lys	Ser	Asn	Lys	Glu	Leu	His	Ala
1400						1405					1410			
Phe	Leu	Phe	Asn	Asp	Phe	Leu	Leu	Leu	Thr	Tyr	Leu	Val	Arg	Gln
1415						1420					1425			
Phe	Ala	Ala	Ala	Ser	Gly	His	Glu	Lys	Leu	Phe	Asn	Ser	Lys	Ser
1430						1435					1440			
Ser	Ala	Gln	Phe	Arg	Met	Tyr	Lys	Thr	Pro	Ile	Phe	Leu	Asn	Glu
1445						1450					1455			
Val	Leu	Val	Lys	Leu	Pro	Thr	Asp	Pro	Ser	Gly	Asp	Glu	Pro	Val
1460						1465					1470			
Phe	His	Ile	Ser	His	Ile	Asp	Arg	Val	Tyr	Thr	Leu	Arg	Thr	Asp
1475						1480					1485			
Asn	Ile	Asn	Glu	Arg	Thr	Ala	Trp	Val	Gln	Lys	Ile	Lys	Gly	Ala
1490						1495					1500			
Ser	Glu	Gln	Tyr	Ile	Asp	Thr	Glu	Lys	Lys	Lys	Arg	Glu	Lys	Ala
1505						1510					1515			
Tyr	Gln	Ala	Arg	Ser	Gln	Lys	Thr	Ser	Gly	Ile	Gly	Arg	Leu	Met
1520						1525					1530			
Val	His	Val	Ile	Glu	Ala	Thr	Glu	Leu	Lys	Ala	Cys	Lys	Pro	Asn
1535						1540					1545			
Gly	Lys	Ser	Asn	Pro	Tyr	Cys	Glu	Val	Ser	Met	Gly	Ser	Gln	Ser
1550						1555					1560			
Tyr	Thr	Thr	Arg	Thr	Leu	Gln	Asp	Thr	Leu	Asn	Pro	Lys	Trp	Asn
1565						1570					1575			
Phe	Asn	Cys	Gln	Phe	Phe	Ile	Lys	Asp	Leu	Tyr	Gln	Asp	Val	Leu

1580		1585		1590
Cys Leu Thr Met Phe Asp Arg Asp Gln Phe Ser Pro Asp Asp Phe				
1595		1600		1605
Leu Gly Arg Thr Glu Val Pro Val Ala Lys Ile Arg Thr Glu Gln				
1610		1615		1620
Glu Ser Lys Gly Pro Thr Thr Arg Arg Leu Leu Leu His Glu Val				
1625		1630		1635
Pro Thr Gly Glu Val Trp Val Arg Phe Asp Leu Gln Leu Phe Glu				
1640		1645		1650
Gln Lys Thr Leu Leu				
1655				

<210> 28
 <211> 30
 <212> DNA
 <213> Artificial

<220>
 <223> Primer

<400> 28
 gaaggagaac tcagaccggc tggagtggat

30

<210> 29
 <211> 21
 <212> DNA
 <213> Artificial

<220>
 <223> Primer

<400> 29
 gacagaggag cggtagatgg a

21

<210> 30
 <211> 21
 <212> DNA
 <213> Artificial

<220>
 <223> Primer

<400> 30
 agctcccctg gttctggctt c

21

<210> 31
 <211> 51

<212> DNA
<213> Artificial

<220>
<223> Primer

<400> 31
gaattcagaa ccatggaaca aaagcttatt tctgaagaag acttggggcc c 51

<210> 32
<211> 37
<212> DNA
<213> Artificial

<220>
<223> Primer

<400> 32
cctggattac aaggatgatg atgacaaatg actcgag 37

<210> 33
<211> 21
<212> PRT
<213> Artificial

<220>
<223> Description of Artificial Sequence: Peptide

<400> 33

Met	Ala	Gln	Phe	Pro	Thr	Pro	Phe	Gly	Gly	Ser	Leu	Asp	Val	Trp	Ala
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Ile	Thr	Val	Glu	Glu
			20	

<210> 34
<211> 1270
<212> PRT
<213> Xenopus laevis

<400> 34

Met	Ala	Gln	Phe	Gly	Thr	Pro	Phe	Gly	Gly	Asn	Leu	Asp	Ile	Trp	Ala
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Ile	Thr	Val	Glu	Glu	Arg	Ala	Lys	His	Asp	Gln	Gln	Phe	His	Gly	Leu
			20					25					30		

Lys	Pro	Thr	Ala	Gly	Tyr	Ile	Thr	Gly	Asp	Gln	Ala	Arg	Asn	Phe	Phe
		35					40					45			

Leu	Gln	Ser	Gly	Leu	Pro	Gln	Pro	Val	Leu	Ala	Gln	Ile	Trp	Ala	Leu
	50					55						60			

Ala Asp Met Asn Asn Asp Gly Arg Met Asp Gln Leu Glu Phe Ser Ile
65 70 75 80

Ala Met Lys Leu Ile Lys Leu Lys Leu Gln Gly Tyr Pro Leu Pro Ser
85 90 95

Ile Leu Pro Ser Asn Met Leu Lys Gln Pro Val Ala Met Pro Ala Ala
100 105 110

Ala Val Ala Gly Phe Gly Met Ser Gly Ile Val Gly Ile Pro Pro Leu
115 120 125

Ala Ala Val Ala Pro Val Pro Met Pro Ser Ile Pro Val Val Gly Met
130 135 140

Ser Pro Pro Leu Val Ser Ser Val Pro Thr Val Pro Pro Leu Ser Asn
145 150 155 160

Gly Ala Pro Ala Val Ile Gln Ser His Pro Ala Phe Ala His Ser Ala
165 170 175

Thr Leu Pro Lys Ser Ser Ser Phe Gly Arg Ser Val Ala Gly Ser Gln
180 185 190

Ile Asn Thr Lys Leu Gln Lys Ala Gln Ser Phe Asp Val Pro Ala Pro
195 200 205

Pro Leu Val Val Glu Trp Ala Val Pro Ser Ser Ser Arg Leu Lys Tyr
210 215 220

Arg Gln Leu Phe Asn Ser Gln Asp Lys Thr Met Ser Gly Asn Leu Thr
225 230 235 240

Gly Pro Gln Ala Arg Thr Ile Leu Met Gln Ser Ser Leu Pro Gln Ser
245 250 255

Gln Leu Ala Thr Ile Trp Asn Leu Ser Asp Ile Asp Gln Asp Gly Lys
260 265 270

Leu Thr Ala Glu Glu Phe Ile Leu Ala Met His Leu Ile Asp Val Ala
275 280 285

Met Ser Gly Gln Pro Leu Pro Pro Ile Leu Pro Pro Glu Tyr Ile Pro
290 295 300

Pro Ser Phe Arg Arg Val Arg Ser Gly Ser Gly Leu Ser Ile Met Ser
 305 310 315 320

Ser Val Ser Val Asp Gln Arg Leu Pro Glu Glu Pro Glu Glu Glu Glu
 325 330 335

Pro Gln Asn Ala Asp Lys Lys Leu Pro Val Thr Phe Glu Asp Lys Lys
 340 345 350

Arg Glu Asn Phe Glu Arg Gly Asn Leu Glu Leu Glu Lys Arg Arg Gln
 355 360 365

Ala Leu Leu Glu Gln Gln Arg Lys Glu Gln Glu Arg Leu Ala Gln Leu
 370 375 380

Glu Arg Ala Glu Gln Glu Arg Lys Glu Arg Glu Arg Gln Asp Gln Glu
 385 390 395 400

Arg Lys Arg Gln Gln Asp Leu Glu Lys Gln Leu Glu Lys Gln Arg Glu
 405 410 415

Leu Glu Arg Gln Arg Glu Glu Glu Arg Arg Lys Glu Ile Glu Arg Arg
 420 425 430

Glu Ala Ala Lys Arg Glu Leu Glu Arg Gln Arg Gln Leu Glu Trp Glu
 435 440 445

Arg Asn Arg Arg Gln Glu Leu Leu Asn Gln Arg Asn Arg Glu Gln Glu
 450 455 460

Asp Ile Val Val Leu Lys Ala Lys Lys Lys Thr Leu Glu Phe Glu Leu
 465 470 475 480

Glu Ala Leu Asn Asp Lys Lys His Gln Leu Glu Gly Lys Leu Gln Asp
 485 490 495

Ile Arg Cys Arg Leu Thr Thr Gln Arg His Glu Ile Glu Ser Thr Asn
 500 505 510

Lys Ser Arg Glu Leu Arg Ile Ala Glu Ile Thr His Leu Gln Gln Gln
 515 520 525

Leu Gln Glu Ser Gln Gln Leu Leu Gly Lys Met Ile Pro Glu Lys Gln
 530 535 540

Ser Leu Ile Asp Gln Leu Lys Gln Val Gln Gln Asn Ser Leu His Arg
 545 550 555 560

Asp Ser Leu Leu Thr Leu Lys Arg Ala Leu Glu Thr Lys Glu Ile Gly
 565 570 575

Arg Gln Gln Leu Arg Asp Gln Leu Asp Glu Val Glu Lys Glu Thr Arg
 580 585 590

Ala Lys Leu Gln Glu Ile Asp Val Phe Asn Asn Gln Leu Lys Glu Leu
 595 600 605

Arg Glu Leu Tyr Asn Lys Gln Gln Phe Gln Lys Gln Gln Asp Phe Glu
 610 615 620

Thr Glu Lys Ile Lys Gln Lys Glu Leu Glu Arg Lys Thr Ser Glu Leu
 625 630 635 640

Asp Lys Leu Lys Glu Glu Asp Lys Arg Arg Met Leu Glu Gln Asp Lys
 645 650 655

Leu Trp Gln Asp Arg Val Lys Gln Glu Glu Glu Arg Tyr Lys Phe Gln
 660 665 670

Asp Glu Glu Lys Glu Lys Arg Glu Glu Ser Val Gln Lys Cys Glu Val
 675 680 685

Glu Lys Lys Pro Glu Ile Gln Glu Lys Pro Asn Lys Pro Phe His Gln
 690 695 700

Pro Pro Glu Pro Gly Lys Leu Gly Gly Gln Ile Pro Trp Met Asn Thr
 705 710 715 720

Glu Lys Ala Pro Leu Thr Ile Asn Gln Gly Asp Val Lys Val Val Tyr
 725 730 735

Tyr Arg Ala Leu Tyr Pro Phe Asp Ala Arg Ser His Asp Glu Ile Thr
 740 745 750

Ile Glu Pro Gly Asp Ile Ile Met Val Asp Glu Ser Gln Thr Gly Glu
 755 760 765

Pro Gly Trp Leu Gly Gly Glu Leu Lys Gly Lys Thr Gly Trp Phe Pro
 770 775 780

Ala Asn Tyr Ala Glu Arg Met Pro Glu Ser Glu Phe Pro Ser Thr Thr

785		790		795		800									
Lys	Pro	Ala	Ala	Glu	Thr	Thr	Ala	Lys	Pro	Thr	Val	His	Val	Ala	Pro
				805						810					815
Ser	Pro	Val	Ala	Pro	Ala	Ala	Phe	Thr	Asn	Thr	Ser	Thr	Asn	Ser	Asn
			820						825				830		
Asn	Trp	Ala	Asp	Phe	Ser	Ser	Thr	Trp	Pro	Thr	Asn	Asn	Thr	Asp	Lys
		835						840				845			
Val	Glu	Ser	Asp	Asn	Trp	Asp	Thr	Trp	Ala	Ala	Gln	Pro	Ser	Leu	Thr
	850						855					860			
Val	Pro	Ser	Ala	Gly	Gln	His	Arg	Gln	Arg	Ser	Ala	Phe	Thr	Pro	Ala
	865					870				875					880
Thr	Val	Thr	Gly	Ser	Ser	Pro	Ser	Pro	Val	Leu	Gly	Gln	Gly	Glu	Lys
				885					890					895	
Val	Glu	Gly	Leu	Gln	Ala	Gln	Ala	Leu	Tyr	Pro	Trp	Arg	Ala	Lys	Lys
			900					905					910		
Asp	Asn	His	Leu	Asn	Phe	Asn	Lys	Asn	Asp	Val	Ile	Thr	Val	Leu	Glu
		915					920					925			
Gln	Gln	Asp	Met	Trp	Trp	Phe	Gly	Glu	Val	Gln	Gly	Gln	Lys	Gly	Trp
	930					935					940				
Phe	Pro	Lys	Ser	Tyr	Val	Lys	Leu	Ile	Ser	Gly	Pro	Leu	Arg	Lys	Ser
	945				950					955					960
Thr	Ser	Ile	Asp	Ser	Thr	Ser	Ser	Glu	Ser	Pro	Ala	Ser	Leu	Lys	Arg
				965					970					975	
Val	Ser	Ser	Pro	Ala	Phe	Lys	Pro	Ala	Ile	Gln	Gly	Glu	Glu	Tyr	Ile
			980					985					990		
Ser	Met	Tyr	Thr	Tyr	Glu	Ser	Asn	Glu	Gln	Gly	Asp	Leu	Thr	Phe	Gln
		995					1000					1005			
Gln	Gly	Asp	Leu	Ile	Val	Val	Ile	Lys	Lys	Asp	Gly	Asp	Trp	Trp	
	1010					1015					1020				
Thr	Gly	Thr	Val	Gly	Glu	Lys	Thr	Gly	Val	Phe	Pro	Ser	Asn	Tyr	
	1025					1030					1035				

Val	Arg	Pro	Lys	Asp	Ser	Glu	Ala	Ala	Gly	Ser	Gly	Gly	Lys	Thr
1040						1045					1050			
Gly	Ser	Leu	Gly	Lys	Lys	Pro	Glu	Ile	Ala	Gln	Val	Ile	Ala	Ser
1055						1060					1065			
Tyr	Ala	Ala	Thr	Ala	Pro	Glu	Gln	Leu	Thr	Leu	Ala	Pro	Gly	Gln
1070						1075					1080			
Leu	Ile	Leu	Ile	Arg	Lys	Lys	Asn	Pro	Gly	Gly	Trp	Trp	Glu	Gly
1085						1090					1095			
Glu	Leu	Gln	Ala	Arg	Gly	Lys	Lys	Arg	Gln	Ile	Gly	Trp	Phe	Pro
1100						1105					1110			
Ala	Asn	Tyr	Val	Lys	Leu	Leu	Ser	Pro	Gly	Thr	Asn	Lys	Ser	Thr
1115						1120					1125			
Pro	Thr	Glu	Pro	Pro	Lys	Pro	Thr	Ser	Leu	Pro	Pro	Thr	Cys	Gln
1130						1135					1140			
Val	Ile	Gly	Met	Tyr	Asp	Tyr	Ile	Ala	Gln	Asn	Asp	Asp	Glu	Leu
1145						1150					1155			
Ala	Phe	Ser	Lys	Gly	Gln	Val	Ile	Asn	Val	Leu	Asn	Lys	Glu	Asp
1160						1165					1170			
Pro	Asp	Trp	Trp	Lys	Gly	Glu	Leu	Asn	Gly	His	Val	Gly	Leu	Phe
1175						1180					1185			
Pro	Ser	Asn	Tyr	Val	Lys	Leu	Thr	Thr	Asp	Met	Asp	Pro	Ser	Gln
1190						1195					1200			
Gln	Phe	Arg	Leu	Gly	Val	Lys	Pro	Ala	Gly	Gly	Ile	Pro	Ala	Thr
1205						1210					1215			
Gly	Asp	Arg	Pro	Phe	Ile	Leu	Phe	Pro	Phe	Arg	Asp	Gly	Pro	Ser
1220						1225					1230			
Leu	Leu	Pro	Asn	Ala	Phe	Gln	Ala	Pro	Pro	Leu	Ser	Val	Val	Met
1235						1240					1245			
Ile	Lys	Phe	Arg	Cys	Phe	Thr	Ala	Pro	Arg	Phe	Cys	Pro	Asp	Met
1250						1255					1260			

Asn Val Lys Tyr Ile Asn Ile
1265 1270

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<212> PRT
<213> Drosophila melanogaster

<400> 35

Met Asn Ser Ala Val Asp Ala Trp Ala Val Thr Pro Arg Glu Arg Leu
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Lys Tyr Gln Glu Gln Phe Arg Ala Leu Gln Pro Gln Ala Gly Phe Val
20 25 30

Thr Gly Ala Gln Ala Lys Gly Phe Phe Leu Gln Ser Gln Leu Pro Pro
35 40 45

Leu Ile Leu Gly Gln Ile Trp Ala Leu Ala Asp Thr Asp Ser Asp Gly
50 55 60

Lys Met Asn Ile Asn Glu Phe Ser Ile Ala Cys Lys Leu Ile Asn Leu
65 70 75 80

Lys Leu Arg Gly Met Asp Val Pro Lys Val Leu Pro Pro Ser Leu Leu
85 90 95

Ser Ser Leu Thr Gly Asp Val Pro Ser Met Thr Pro Arg Gly Ser Thr
100 105 110

Ser Ser Leu Ser Pro Leu Asp Pro Leu Lys Gly Ile Val Pro Ala Val
115 120 125

Ala Pro Val Val Pro Val Val Ala Pro Pro Val Ala Val Ala Thr Val
130 135 140

Ile Ser Pro Pro Gly Val Ser Val Pro Ser Gly Pro Thr Pro Pro Thr
145 150 155 160

Ser Asn Pro Pro Ser Arg His Thr Ser Ile Ser Glu Arg Ala Pro Ser
165 170 175

Ile Glu Ser Val Asn Gln Gly Glu Trp Ala Val Gln Ala Ala Gln Lys
180 185 190

Arg Lys Tyr Thr Gln Val Phe Asn Ala Asn Asp Arg Thr Arg Ser Gly

195	200	205
Tyr Leu Thr Gly Ser Gln Ala Arg Gly Val Leu Val Gln Ser Lys Leu 210 215 220		
Pro Gln Val Thr Leu Ala Gln Ile Trp Thr Leu Ser Asp Ile Asp Gly 225 230 235 240		
Asp Gly Arg Leu Asn Cys Asp Glu Phe Ile Leu Ala Met Phe Leu Cys 245 250 255		
Glu Lys Ala Met Ala Gly Glu Lys Ile Pro Val Thr Leu Pro Gln Glu 260 265 270		
Trp Val Pro Pro Asn Leu Arg Lys Ile Lys Ser Arg Pro Gly Ser Val 275 280 285		
Ser Gly Val Val Ser Arg Pro Gly Ser Gln Pro Ala Ser Arg His Ala 290 295 300		
Ser Val Ser Ser Gln Ser Gly Val Gly Val Val Asp Ala Asp Pro Thr 305 310 315 320		
Ala Gly Leu Pro Gly Gln Thr Ser Phe Glu Asp Lys Arg Lys Glu Asn 325 330 335		
Tyr Val Lys Gly Gln Ala Glu Leu Asp Arg Arg Arg Lys Ile Met Glu 340 345 350		
Asp Gln Gln Arg Lys Glu Arg Glu Glu Arg Glu Arg Lys Glu Arg Glu 355 360 365		
Glu Ala Asp Lys Arg Glu Lys Ala Arg Leu Glu Ala Glu Arg Lys Gln 370 375 380		
Gln Glu Glu Leu Glu Arg Gln Leu Gln Arg Gln Arg Glu Ile Glu Met 385 390 395 400		
Glu Lys Glu Glu Gln Arg Lys Arg Glu Leu Glu Ala Lys Glu Ala Ala 405 410 415		
Arg Lys Glu Leu Glu Lys Gln Arg Gln Gln Glu Trp Glu Gln Ala Arg 420 425 430		
Ile Ala Glu Met Asn Ala Gln Lys Glu Arg Glu Gln Glu Arg Val Leu 435 440 445		

Lys Gln Lys Ala His Asn Thr Gln Leu Asn Val Glu Leu Ser Thr Leu
 450 455 460

Asn Glu Lys Ile Lys Glu Leu Ser Gln Arg, Ile Cys Asp Thr Arg Ala
 465 470 475 480

Gly Val Thr Asn Val Lys Thr Val Ile Asp Gly Met Arg Thr Gln Arg
 485 490 495

Asp Thr Ser Met Ser Glu Met Ser Gln Leu Lys Ala Arg Ile Lys Glu
 500 505 510

Gln Asn Ala Lys Leu Leu Gln Leu Thr Gln Glu Arg Ala Lys Trp Glu
 515 520 525

Ala Lys Ser Lys Ala Ser Gly Ala Ala Leu Gly Gly Glu Asn Ala Gln
 530 535 540

Gln Glu Gln Leu Asn Ala Ala Phe Ala His Lys Gln Leu Ile Ile Asn
 545 550 555 560

Gln Ile Lys Asp Lys Val Glu Asn Ile Ser Lys Glu Ile Glu Ser Lys
 565 570 575

Lys Glu Asp Ile Asn Thr Asn Asp Val Gln Met Ser Glu Leu Lys Ala
 580 585 590

Glu Leu Ser Ala Leu Ile Thr Lys Cys Glu Asp Leu Tyr Lys Glu Tyr
 595 600 605

Asp Val Gln Arg Thr Ser Val Leu Glu Leu Lys Tyr Asn Arg Lys Asn
 610 615 620

Glu Thr Ser Val Ser Ser Ala Trp Asp Thr Gly Ser Ser Ser Ala Trp
 625 630 635 640

Glu Glu Thr Gly Thr Thr Val Thr Asp Pro Tyr Ala Val Ala Ser Asn
 645 650 655

Asp Ile Ser Ala Leu Ala Ala Pro Ala Val Asp Leu Gly Gly Pro Ala
 660 665 670

Pro Glu Gly Phe Val Lys Tyr Gln Ala Val Tyr Glu Phe Asn Ala Arg
 675 680 685

Asn Ala Glu Glu Ile Thr Phe Val Pro Gly Asp Ile Ile Leu Val Pro
690 695 700

Leu Glu Gln Asn Ala Glu Pro Gly Trp Leu Ala Gly Glu Ile Asn Gly
705 710 715 720

His Thr Gly Trp Phe Pro Glu Ser Tyr Val Glu Lys Leu Glu Val Gly
725 730 735

Glu Val Ala Pro Val Ala Ala Val Glu Ala Pro Val Asp Ala Gln Val
740 745 750

Ala Asp Thr Tyr Asn Asp Asn Ile Asn Thr Ser Ser Ile Pro Ala Ala
755 760 765

Ser Ala Asp Leu Thr Ala Ala Gly Asp Val Glu Tyr Tyr Ile Ala Ala
770 775 780

Tyr Pro Tyr Glu Ser Ala Glu Glu Gly Asp Leu Ser Phe Ser Ala Gly
785 790 795 800

Glu Met Val Met Val Ile Lys Lys Glu Gly Glu Trp Trp Thr Gly Thr
805 810 815

Ile Gly Ser Arg Thr Gly Met Phe Pro Ser Asn Tyr Val Gln Lys Ala
820 825 830

Asp Val Gly Thr Ala Ser Thr Ala Ala Ala Glu Pro Val Glu Ser Leu
835 840 845

Asp Gln Glu Thr Thr Leu Asn Gly Asn Ala Ala Tyr Thr Ala Ala Pro
850 855 860

Val Glu Ala Gln Glu Gln Val Tyr Gln Pro Leu Pro Val Gln Glu Pro
865 870 875 880

Ser Glu Gln Pro Ile Ser Ser Pro Gly Val Gly Ala Glu Glu Ala His
885 890 895

Glu Asp Leu Asp Thr Glu Val Ser Gln Ile Asn Thr Gln Ser Lys Thr
900 905 910

Gln Ser Ser Glu Pro Ala Glu Ser Tyr Ser Arg Pro Met Ser Arg Thr
915 920 925

Ser Ser Met Thr Pro Gly Met Arg Ala Lys Arg Ser Glu Ile Ala Gln
 930 935 940

Val Ile Ala Pro Tyr Glu Ala Thr Ser Thr Glu Gln Leu Ser Leu Thr
 945 950 955 960

Arg Gly Gln Leu Ile Met Ile Arg Lys Lys Thr Asp Ser Gly Trp Trp
 965 970 975

Glu Gly Glu Leu Gln Ala Lys Gly Arg Arg Arg Gln Ile Gly Trp Phe
 980 985 990

Pro Ala Thr Tyr Val Lys Val Leu Gln Gly Gly Arg Asn Ser Gly Arg
 995 1000 1005

Asn Thr Pro Val Ser Gly Ser Arg Ile Glu Met Thr Glu Gln Ile
 1010 1015 1020

Leu Asp Lys Val Ile Ala Leu Tyr Pro Tyr Lys Ala Gln Asn Asp
 1025 1030 1035

Asp Glu Leu Ser Phe Asp Lys Asp Asp Ile Ile Ser Val Leu Gly
 1040 1045 1050

Arg Asp Glu Pro Glu Trp Trp Arg Gly Glu Leu Asn Gly Leu Ser
 1055 1060 1065

Gly Leu Phe Pro Ser Asn Tyr Val Gly Pro Phe Val Thr Ser Gly
 1070 1075 1080

Lys Pro Ala Lys Ala Asn Gly Thr Thr Lys Lys
 1085 1090

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 <211> 12
 <212> DNA
 <213> Artificial

<220>
 <223> 5' UTR

<400> 36
 ggatccacca tg

12

<210> 37
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 <212> DNA
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<400> 37
aagcttgggc cc

12